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09/249,216	02/12/1999	JANNE LAAKSO	297-008493-U	9691

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CLARENCE A GREEN  
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FAIRFIELD, CT 06430

EXAMINER
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DEAN, RAYMOND S

ART UNIT	PAPER NUMBER
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2618

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/249,216	<b>Applicant(s)</b> LAAKSO ET AL.	
	<b>Examiner</b> RAYMOND S. DEAN	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12, 13 and 15-20 is/are pending in the application.
- 4a) Of the above claim(s) 17 and 18 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12, 19 and 20 is/are allowed.
- 6) ☒ Claim(s) 1-10, 13, 15 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Examiner respectfully disagrees with Applicants' assertion on Page 9, 1<sup>st</sup> Paragraph "Therefore, it is improper to combine these two references since they are trying to achieve contradictory ..." and Applicants' assertion in the last Paragraph in Page 8 "Thus, there is a gap between the adjusting philosophies of Reed and Persson ...". Reed, as Applicants point out, does teach a kind of iteration, however, this particular kind of iteration is an iterative measuring of a fading characteristic of a communication channel between the base station and the mobile and an iterative comparison of said fading characteristic to a threshold value. **There is, however, no iterative adjustment of the transmission power level from the base station, which is what Persson teaches against.** Reed and Persson thus do not teach away from one another and thus can be combined. Furthermore, modifying Persson with Reed renders a system that compensates for high Eb/No in a fading environment as taught in Reed. Reed further teaches, like Persson, power control in a CDMA system. CDMA systems comprise a plurality of base stations and mobile stations thus the power control method of Reed operates with a plurality or sets of mobile stations.

Tiedemann et al. (6,137,840), like Persson and Reed, teaches adaptive forward link power control in a CDMA system. Tiedemann further teaches a power control

function which is based on, at least partly, a quantity which at least partly represents the control history experienced by at least one bearer (Col. 14 lines 36 – 39, the quantity that represents the control history are the past generated full rate transmit power values). Tiedemann (Col. 10 lines 55 - 56) also teaches, like Persson (Abstract), adaptive forward link power control in a variable rate system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the above method of Tiedemann as an alternative means for achieving the same predictable result of adaptive forward link power control in a variable rate system.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9, 13, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Persson (U.S. Patent No. 6,067,446) in view of Tiedemann et al. (6,137,840).

4. Regarding claim 1, Persson discloses a power control method in a mobile system based on at least partly a spread spectrum technique (CDMA) and having at least one mobile station and at least one base station, wherein the transmit power of more than one bearer is determined at a time with the aid of the method comprising: forming

calculating the control function in order to determine new output power values of the bearers. See col. 4, lines 48-62 and col. 5, line 51 through col. 8, line 39. Persson does not disclose forming a control function at least partly on the basis of a quantity which at least partly represents the control history experienced by at least one bearer.

Tiedemann teaches forming a power control function which is based on, at least partly, a quantity which at least partly represents the control history experienced by at least one bearer (Col. 14 lines 36 – 39, the quantity that represents the control history are the past generated full rate transmit power values).

Tiedemann (Col. 10 lines 55 - 56) also teaches, like Persson (Abstract), adaptive forward link power control in a variable rate system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the above method of Tiedemann as an alternative means for achieving the same predictable result of adaptive forward link power control in a variable rate system.

Regarding claim 2, Persson in view of Tiedemann teaches all of the limitations as applied to claim 1 above. Persson also discloses that the control function is formed at least partly on the basis of an at least partial history of the power control of at least one bearer. See equation 16.

Regarding claim 3, Persson in view of Tiedemann teaches all of the limitations as applied to claim 1 above. Persson also discloses that the transmit power of more than one bearer is determined when the transmission of at least one bearer (belonging to M4) is initiated. See col. 5, line 51 through col. 6, line 8.

Regarding claim 4, Persson in view of Tiedemann teaches all of the limitations as applied to claim 1 above. Persson also discloses that the transmit power of more than one bearer is determined when the transmission of at least one bearer is terminated. See col. 2, lines 16-27; col. 3, lines 25-35; and col. 7, lines 22-24.

Regarding claim 5, Persson in view of Tiedemann teaches all of the limitations as applied to claim 1 above. Persson also discloses that the transmit power of more than one bearer is determined when the transmit power of at least one bearer changes. See col. 3, lines 36-44.

Regarding claim 6, Persson in view of Tiedemann teaches all of the limitations as applied to claim 1 above. Persson also discloses that the transmit power of more than one bearer is determined when the target level of the correctness (frame error rate) of at least one bearer changes. See col. 7, lines 25-35.

Regarding claim 7, Persson in view of Tiedemann teaches all of the limitations as applied to claim 1 above. Persson also discloses that the transmit power of more than one bearer is determined when the transmission rate of at least one bearer changes. See col. 5, lines 51-60.

Regarding claim 8, Persson in view of Tiedemann teaches all of the limitations as applied to claim 1 above. Persson also discloses that the transmit power of more than one bearer is determined when at least one base station of at least one bearer is changed in a macro diversity combination. See col. 9, lines 51-64.

Regarding claim 9, Persson in view of Tiedemann teaches all of the limitations as applied to claim 1 above. Persson also discloses that the control function may be at least partly formed on the basis of the desired correctness levels (frame error rate) of the bearers. See col. 7, lines 25-35.

Regarding claim 13, Persson in view of Tiedemann teaches all of the limitations as applied to claim 1 above. Persson also discloses that the output power of more than one base station and the mobile stations managed by the base stations may be controlled with the method, and that the control function is formed partly on the basis of how strong the signal of each base station is received in at least one mobile station of each other base station. See col. 10, lines 4-12.

Regarding claim 16, Persson discloses an element (base station) of a mobile system comprising: a device to determine the output power for more than one bearer partly on the basis of a quantity; and a device to control the output power of at least one bearer on the basis of the output power values. See col. 4, lines 48-62 and col. 5, line 51 through col. 8, line 39. Persson does not disclose a device to generate a quantity which at least partly depends on the control history experienced by at least one bearer.

Tiedemann teaches a device to generate a quantity which at least partly depends on the control history experienced by at least one bearer (Col. 14 lines 36 – 39, the quantity that represents the control history are the past generated full rate transmit power values).

Tiedemann (Col. 10 lines 55 - 56) also teaches, like Persson (Abstract), adaptive forward link power control in a variable rate system thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the above method of Tiedemann as an alternative means for achieving the same predictable result of adaptive forward link power control in a variable rate system.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Persson in view of Tiedemann as applied to claim 1 above, and further in view of Reed (U.S. Patent No. 5,574,984).

Regarding claim 10, Persson in view of Tiedemann teaches all of the limitations as applied to claim 1 above, but does not teach that the method comprises a step in which it is check whether each determined output power value is within the range formed by the typical minimum and maximum limits of the respective bearer, whereby the output power values are taken in use if no one of the values is outside the region. However, Reed discloses a power control method which comprises checking whether an output power value is within a range formed by typical minimum and maximum limits of a bearer. This allows the method to account for the power limitations of the base station equipment. See col. 1, lines 45-59. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Persson in view of Tiedemann with Reed, such that the method comprises a step in which it is check whether each determined output power value is within the range formed by the typical



minimum and maximum limits of the respective bearer, in order to stay within the limitations of the base station equipment.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Persson in view of Tiedemann as applied to claim 1 above, and further in view of Haartsen (U.S. Patent No. 5,491,837).

Regarding claim 15, Persson in view of Tiedemann teaches all of the limitations as applied to claim 1 above, but does not teach that the method comprises a step in which a decision is made on the basis of the generated output power values for allowing the transmission of at least one bearer. However, Haartsen discloses a bearer allocation method which uses generated output power value measurements for deciding which bearers to use for transmission. This allows the system capacity to be maximized because the bearers having the minimum required transmission power are allocated. See col. 3, line 34 through col. 4, line 7. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Persson in view of Tiedemann with Haartsen, such that a decision is made on the basis of the generated output power values for allowing the transmission of at least one bearer, in order to maximize system capacity.

***Allowable Subject Matter***

7. Claims 12, 19, and 20 are allowed.

8. The following is a statement of reasons for the indication of allowable subject matter:

Claim 19 is allowed because it contains the subject matter of claim 11 indicated to be allowable in the Office Action mailed on January 10, 2002 (Paper No. 8).

Claim 20 is allowed because it contains the subject matter of claim 14 indicated to be allowable in the Office Action mailed on January 10, 2002 (Paper No. 8).

Claim 12 is allowed because it depends on claim 19.

### ***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAYMOND S. DEAN whose telephone number is (571)272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raymond S Dean/  
Primary Examiner, Art Unit 2618

Raymond S. Dean  
April 3, 2008